Remarks:

Applicants have read and considered the Office Action dated August 30, 2005 and the references cited therein. New claims 15-21 have been added. Claims 5, 8-9, 12-13 and 15-21 are currently pending.

In the Action, the indicated allowability of claim 9 is withdrawn in view of the newly discovered reference to Rainbolt et al. Applicants note the delay in the citation of the new reference. Applicants further note that the Finality of the previous rejection is withdrawn in view of the newly discovered reference.

Claims 9, 12 and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Copson in view of Levinson and Rainbolt et al. Applicants assert that the references do not teach or suggest combination with one another as Rainbolt is not directed to microwave lyophilization.

In addition, claims 5 and 8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Copson, in view of Levinson and Rainbolt et al. and further in view of Takahashi. The Action states that Takahashi teaches a drying method with a step of shielding the selected surfaces and that it would have been obvious to combine the references. Applicants assert that the combination does not arrive at the recited invention and the references do not teach or suggest combination with Rainbolt as discussed above.

New claims 15-21 have been added and are believed to patentably distinguish over the prior art including the cited references and any combination thereof. Claim 15 recites a method of freeze drying material comprising placing the material to be processed in a chamber and varying temperature and pressure conditions to facilitate sublimation. The claim further recites creating a microwave field in the chamber and shielding selected surfaces in the chamber from direct exposure to microwaves as well as providing a stirrer with arc inhibiting surfaces and stirring the microwaves in the field with a stirrer to facilitate improved microwave dispersion in

the chamber. Claim 15 further recites sensing corona discharges in the chamber to detect corona discharges and controlling microwave power and duration to vary microwave field strength in response to detected corona discharges and coordinating with pressure to decrease the occurrence of corona discharges. Finally, claim 15 recites trapping water vapor extracted from the material being dried. Applicants assert that the prior art or any combination does not achieve the present invention. Copson teaches freeze drying but does not teach the control or coordination to facilitate an improved method of freeze drying as recited in claim 15. Levinson teaches only a method of microwave drying but does not teach freeze drying. The method of coordination of temperature, pressure and chamber conditions with reduced corona discharge cannot be achieved by the prior art or any combination thereof.

Applicants assert that new claims 16 and 17 are also allowable for those reasons as well as others.

New claim 18 recites that the microwave field is created by a plurality of microwave generators selectively arranged to direct microwaves at all of the material to be freeze dried in the chamber and claim 19 recites that a corona discharge detection and control system is linked to the plurality of microwave generators for selectively varying power to each of the microwave generators. The prior art does not teach or suggest the selected variance of power to the microwave generator in combination with the method recited. The prior art does not achieve the improved method of freeze drying that is obtained by the present invention. Applicants assert that claims 18 and 19 are allowable for at least these reasons.

Finally, claim 20 recites that sensing corona discharges is performed by temperature sensors exterior of the microwave field and claim 21 recites that sensing of corona discharges is performed by sensors comprising photo detectors. Applicants assert that the prior art does not teach or suggest removing the temperature sensors to a position within the chamber which is exterior of the microwave field. This removes surfaces that potentially create corona discharges.

Claim 21 recites sensing with photo detectors. Applicants assert that none of the prior art teach or suggest such a detection method.

Applicants assert that the claims, as submitted, patentably distinguish over the prior art. A speedy and favorable action in the form of a Notice of Allowance is hereby solicited. If the Examiner feels that a telephone interview may be helpful in this matter, please contact Applicants' Representative at (612) 336-4728.

23552
PATENT TRADEMARK

Respectfully submitted,

MERCHANT & GOULD P.C.

Dated: 2/28/06

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PAGE 9/9 * RCVD AT 2/28/2006 6:17:03 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/22 * DNIS:2738300 * CSID:6123329081 * DURATION (mm-ss):02-16